Notebook Series -- Notebooks by Experimenters Other Than Edison
Phonograph Record Experiments -- W. W. Dinwiddie Disc Books
Notebook, N-18-12-07

This notebook was used by William W. Dinwiddie during December 1918-February 1919 for notes on the production of blanks and prints for disc records. There is one additional entry from March 1920. Edison's supervision of this work is indicated by occasional notations in his handwriting and by Dinwiddie's references to his suggestions and comments. The experiments are numbered from D201 through D347. The entries describe different methods of preparation and contain remarks about the results of the experiments, including how the prints made from each blank sounded. Several entries mention that a particular print sounded good or bad to Edison or that "Mr. E can not hear surface." Some entries note the expansion of blanks over a number of days. Also included are lists of chemicals and pigments, along with notations regarding their characteristics and sources of supply. The front cover is labeled "Dinwiddie Varnish D-201 -- Next book is 401--." The pages are unnumbered. Approximately 160 pages have been used.

D-201

175 g. blanc Fixe,
150 g. alcohol,
25 g Rosin.

Rosin dissolved in the alcohol-
blanc Fixe added in paint mill and
run thru three times

applied with brush - to D125 - blank. too
thick to flow and makes ridges from
brush. does not dry flat - does not crack -
applied with brush to regular blank is
drier than with the 125 and cracks in
small checks all over when dried in
air only. dries flat and cracks

D-202.

175g blanc Fixe.
150g Denat alcohol.
25g Fine shellac.

Shellac dissolved in alcohol, blanc fixe added in paint mill and run thru three times thinner than 201

does not dry flat on D125-blank - dries flat on regular blank.

does not crack -

Varnished 2 coats regular varnish baked and printed regular.

125 blank warped in oven.

see note on D-207

D-203

175g chalk
150g denat alcohol
25g fine shellac -

same mixing as 201 & 202

added 50 g denatured alcohol later to thin out - then thicker than 201 or 202 but at the beginning and after 1st ~~time~~ thru paint mill it was thinner than 201.

does not stay suspended in solution.

see - 206

Alcohol seems to go into the blank leaving the chalk dry and thick like putty almost impossible to put it on. needs more shellac

see 206 and 208

Cracks when dry.

D-204

Manila copal melted then pulverized.
dissolves in cold - Amyl acetate
hot - alcohol
hot - turpentine } about half as
hot - Solvent naptha } soluble as in hot alcohol -
will not dissolve at all in
gasoline either cold or hot.
alcohol plus 20% Amyl acetate
is a better solvent than all amyl acetate

D-205

120 g denatured alcohol
30 g Amyl acetate.
25 g Manila Copal - melted and pulverized.
dissolves very much better than shellac
in alcohol.
put in only 145 g clay and got as
thick as putty.
added 50 cc alcohol 10 cc amyl acetate with
15 g Manila Copal - still too thick
will stand up in a pile to top of beaker
as it comes from paint mill.
added 50 cc alcohol 10 cc amyl acetate
with 15 g manila Copal again.
sounds good - but many
crackles, see note on 207

206-D.

200 g denatured Alcohol
33⅓ g fine shellac
175 g chalk

Run thru paint mill 6 times
got it a little too thick.

207-D.

150 g denatured Alcohol
40 g fine shellac.
175 g china clay

Run thru paint mill three times.
a little too thick
does not dry quite flat - too much shellac

Record sounds best, 201-210 inclusive.
202 is second best.

208.D.

150 g. denatured alcohol
40 gr. fine shellac
150 gr chalk. see 206
put thru paint mill 4 times.

too stiff to use set in the flask so that I could not shake it up again.

209-D.

100 g clay.
Rubber solution { from Cyl. Record. - pure
{ gum rubber + benzol.
added a little benzol in mill to replace evaporation.
does not pass thru paint mill easily had to open it wide to get it to pass at all.
Ran thru twice but could not get smooth. The clay separates in lumps on the blank. Blank seems to soak up solvent and take it from the clay
N.G. cracks on blank.

D-210
Plain rubber solution —
makes very smooth coat —
when dry soaks in leaving blank little
(matt) flat surface.
good surface
see note on D-207

D-211
80 cc regular varnish —
80 cc alcohol —
88 g. china clay.
N.G.

D212
85 cc regular varnish
85 cc alcohol
37 g alumina hydrate.
better than 211

D-213
86-cc regular varnish
86-cc alcohol
100 g Flamec Solite Seal Zinc Solite.
better than 212

D-214
80cc regular varnish
80cc alcohol
125 g 400 mesh silica
a little too thick -

Record sounds rough -

D-215 -
80cc regular varnish.
80cc alcohol
100 g 400 mesh silica.

Record sounds better than 214 - little better than regular

D-216
80cc regular varnish
80cc alcohol
125g Lithopone

Record no better than regular.

D-217
80cc regular varnish
80cc Alcohol
125g Magnesium Silicate
Sounds gritty in paint mill like chalk.
Record sounds very promising.

D-218.

85 cc Regular Varnish
85 cc Alcohol
50 g Kissolgum (Kissolgum Co of America)
25 cc regular varnish
25 cc alcohol

Record sounds very promising.

D-219

80 cc Regular varnish
80 cc Alcohol
100 g Blanc Fixe

Promising - better than regular to Nov. 2.
melody in F not so good R.O.

D-220

80 cc Regular Varnish
80 cc Alcohol
125 g Blanc Fixe.

V. good - best yet Melody in F much better than other side evidently due to defective application

See 201 202-219-220-222-223-224

D-221

120 cc Denatured Alcohol #1
30 cc Amyl Acetate.
25 g Manila Copal
175 g Blanc Fixe

V. good except crackly start. Melody in F side crackly - rough spot.

D-222
120 cc Denat. Alcohol
30 cc Amyl acetate
30 g Manila Copal
175 g Blanc Fixe
cracks at start but inside U good
R.D. at start immediately inside - better than 221

D-223
120 cc Denatured Alcohol
30 cc Amyl acetate
35 g Manila Copal
175 g Blanc Fixe
V.V. good best yet -

D-224

120 cc Denatured Alcohol.
30 cc Amyl Acetate.
40 g Manila Copal.
175 g Blanc Fixe,
not quite so good as 223.

D-225

One coat regular varnish for comparison – with 2 coats on top same as all of the previous experiments.

About same as regular –

D-226

80 cc Regular Varnish
80 cc Denat Alcohol
35 g Gasblack -
cracked all over in very fine (1/16" and smaller) areas

D-227

100 cc thin rubber solution
50 g Blanc Fixe
will not mix in paint mill
gets granular - seems to take the rubber out of solution.?
too much

D-228
100 cc thin rubber solution
25g. Zinc White
Mixed very well

poor

D-229
100 cc thin rubber solution
25g Magnesium Silicate
mixed very well - lost some
of the solution or it would
have taken more silicate
Rotten

D-230
100 cc thin rubber solution
14 g - Kieselguhr.
seems too thick.

Rotten peeling off in center of mount.

D-231
80 cc regular varnish 6 4 disc lies gas black -
80 cc alcohol
100 g "Clay Lox"
fair.

D-232

80 cc reg varnish 64 bisc. less gas black
80 cc alcohol
100 g precipitated chalk.
too thick but very
much better than varnish
containing ordinary chalk.
N.G did not print.

D-233

Same as 232 except used
only 50 g - precip - chalk.

priming.

D-234

80 cc regular varnish 6 ~~H~~ drise lesocoasblack.
80 cc Alcohol
50 g Rottenstone smoke.

fair.

D-235

Same as D-232 except use only 75 g precipitated chalk.

fair only

D236

80cc Reg var 64 Wisc. without gas black
80cc Alcohol.
30g Alumina Hydrate.

varnish is a little thin.

N.G.

D-237

80cc Reg. Var. 64 Wisc. without gas black
80cc Alcohol
125g blanc Fixe.

is good. R.O. in McCloskey inc F side.

D-238
80cc Reg Var 6 Wire without gasblack
80cc Alcohol
125 g Barium Carbonate

fair to good

D-239
80cc Reg Var 6 Wire without Gasblack.
80cc alcohol
75 g Florange White Seal Zinc White.

good on Spring Coang
fair to good on other side

D-240
80 cc Reg bar 646 Visc without Gas black
80 cc Alcohol
125 g Lithopone.

Fair

D-241
80 cc Reg bar 646 Visc without gas black.
80 cc Alcohol
125 g Magnesium Silicate.

only fair

D-242

80 cc Reg. Var. 6 4b base without Goublak
80 cc Alcohol
35 g Kieselguhr.
too thick
Good Surface.

D-243

Same as 242 except used only 25 g Kieselguhr
only fair

2 lb. ground Phenol Resin from Hoffman –
Free phenol 1.6% viscosity 45 sec.

D-244 –

100 g. Phenol Resin visc. 45 sec. free phenol 1.6%
6 g. Phenol
1 g. Para
7.8 g. 6/4
200 g. No 1 Denatured alcohol.

Shaken in flask to dissolve and divided into two equal parts by weight.

D-245

½ of varnish D-244 (157g.)
200 g blanc Fixe.

see 256

D-246

½ of varnish D-244 (157g.)
50 g denatured alcohol.
200 g blanc Fixe.

246-a one coat fair - a little lacticthickening.

246-b two coats. V. good

246-c three coats. good -

without reg bar on top 246 - e - varnish cracks in fine radial cracks - but sounds very soft -

following Phenomenon
Edism Coat heat
gerd Coolness
surface

D-247

200g. Alcohol.
6g. Phenol
7.8g 6/4.7
1g Para
100g Phenol Resin

D-248

1/2 of Varnish D-247 (157g)
20g ~~Denatured~~ Alcohol
200g Blanc Fixe

248a-one coat + 2 coats regular fair
~~248b 2 coats~~

248-b two coats

248-c two coats. very good surface

D-249

½ of varnish D-247
35 g denatured alcohol
200 g Blanc Fixe.

249-a - one coat.

249-b two coats.

249-C three coats.

D-250

½ of varnish same as 247 157 g
10 g denatured alcohol.
100 g blanc fixe -
4 g gas black.

250A - one coat. poor

250B Two coats ~~good~~ - hard with regular top

250C Three coats - one varnished 2 coats regular
one not varnished

Lowell Rossfaces

D-251

½ lot varnish.
10 g Alcohol
200 g blanc Fixe

251 A one coat.

251 B Two coats. + 2 coats regular

251 C Two coats + 1 coat regular

better without regular on top.

D-251
½ lot varnish.
10 g alcohol
200 g blanc Fixe

251 A one coat.

251 B Two coats. + 2 coats regular

251 C Two coats + 1 coat regular
better without regular on top.

~~D-252~~

~~½ of varnish same as 247~~

252 A one coat

252 B two coats

252 C three coats

252 D four coats.
best with lig on top of any so far
that had reg var on top.

D-252

~~[illegible]~~ varnish same as 247
300 g blanc fixe
4 g gas black.
20 g denatured alcohol.

D-253

1/2 of varnish same as D-247 (167g)

100g Blanc Fixe

4g Gas Black.

253-A one coat top coat req - blond surface.

253-B 2 coats blond surface

253-C 0 coats blond surface

D-254

½ of varnish same as D 247.
20 g Alcohol.
100 g Blane Fixe.
4 g Gas black.

254-A 1 coat loud surface
254-A 1 coat with 2g on top loud surface
254-B 2 coats loud surface
254-C 3 coats - better than DVB

D-255

200 g Solvent Naptha.

100 g Phenol Resin.

after shaking a longtime only a small portion dissolved.

added 25 g alcohol and all separated from the naptha into a ball –

Same as 246

D-256

½ of Varnish Libre 247
50 g denatured alcohol
200 g blanc fixe

256-A - one coat.
Mr. E. coarsely bear general surface - full of fine cracklies - not cracked. fine except for (dirt?) R.O.

256-B Two coats.
Stinks & P. O. all over one side

256-C three coats. poor

D-257

½ of Varnish Libre 247
60 g denatured alcohol
200 g blanc fixe.

257-A one coat. Rotten

257-B Two coats. N.G.

257-C Three coats. N.G.

D-258
1/2 of varnish libre 247
150g blanc fixe

258-A one coat.

258-B two coats.

258-C three coats.

* Critical proportion of blanc fixe.

D-259
1/2 of varnish libre 247
100 g blanc fixe.

259-A looks yellow but is scarcely a matt surface.
fair to good

* 259-B looks dark - blank shows thru,
only fair

* 259-C looks dark - blank shows thru, darker than B.
good

Got 5 lbs Phenol Resin lot #122
Viscosity 45 sec Free Phenol 16% Nov 30-1918
used this on D-260 et seq.

D-260
Same as 25.8

260-A (1) 1 coat
Very good surface No pouts.

260-B (2) 2 coats
All pulled out N.G.

D-261

½ of varnish like 247

125 g blanc fixe

261-A - (2) 2 coats

Sands fair - no cracks - no P.O.

261-B - (2) 3 coats

better than A - no cracks - P.O.

-262

½ of varnish like 247

120 g Blanc Fixe

both Blanks much more absorbent than one side

262 A (2) 2 coats.

fair to good

D-263

½ of varnish like 247

140 g Blanc Fixe.

263-A - ② - 2 coats

fair to good gm surface awful cracks

263-B ② - 3 coats. one blank - much more absorbent on acid

D-264

200 g alcohol

9 g phenol - (to make 25% ?)

7.8 g 6/4

2 g Para

100 g Phenol Resin.

½ of varnish

50 g denat Alcohol

200 g Blanc Fixe

Coats well dried before another coat.

264-A ② - 2 coats

264-B ③ - 3 coats.

D-265 (see 258)

1/2 of varnish 364
150 g blanc Fixe

Coats well dried before another coat

265-A (2) 2 coats

265-B (2) - 3 coats

D-266

200 g Alcohol
6 g Phenol
7 g 6/4
2 g Para
100 g Phenol Resin.

take 1/2 of varnish
50 g denat alcohol
200 g Blanc Fixe

266-A one coat.

266 B two coats.

D-267

1/2 of varnish 266

150 g Blanc Fixe,

— covers well —

267-A one coat.

267-B two coats

D-268

200 g Alcohol

6g Phenol

7.8g 6/4

2 g Para.

100 Phenol Resin

1/2 of varnish with 130 Blanc Fixe

268 A - ② (one coat 269 then 1 coat 268) both much more absorbent on one side.

268-B ② 2 coats

D-269
1/2 of varnish 268
100 g blanc Fixe

269-A ② 2 coats

269 B ① 3 coats

not made
D 270
1/2 of varnish like 268
150 g blanc Fixe.

D-271

½ of varnish litre 268 (with 2g paste)
150 g red lead

a - 1 coat

B - 2 coats Sounds V.V. good Dec 7-18

fair to good - rack blank - mold Jan 16

D-272

½ of varnish litre 268
150g lead chromate.

a one coat

b - two coats. Sounds V.V. good Dec 7-18

a little better than fair to good Jan 16

273

½ of lot of varnish like 268
150 g dry white lead - old Dutch Process, Nat Lead Co.

A - 1 coat

B - 2 coats fair surface

274

½ lot of varnish like 268
150 g varnish-makers Litharge - Nat Lead Co.

A 1 coat

B 2 coats good surface

D-275
½ of varnish like 247
12 g. ~~Gas~~ black.
ground them mill six times.

271-B-275
272-B-275 land -
267-A-275 only fair
269-A-275 fair to good
266-A-275 - was not cracked before the 275 coat but ~~[illegible]~~ coats cracks all over.
265-A-275 - fair
264-B-275 (land) fair to good
259-B-275 nearly fair to good
263-A-275 fair to good
258-B-275 fair
262-A-275 fair to good.
258-A-275 fair to good - nearly good
257-A-275 only fair

D-276
½ of varnish like 247
150 g Red Lead

276-B -(2) two coats -

276-278 - (2) coat of 278 put on first then after 2 hrs one coat of 276.

276 - all earlier numbers baked first.

D-277
1/2 of varnish like 247
150 g Lead Chromate.

277-B - (2) 2 coats 277

277-278 - (1) coat of 278 put on first 2 hr later coat 277

277- earlier numbers ~~taking~~ first.

on 276-277

D-278.
Varnish like 247
100 g denat alcohol
400 g Blanc Fixe.

D-279

½ of varnish like 247

100 g } ~~Blanc Fixe~~
50 g } Red Lead

one coat 278 + 1 coat 279 - (A)

279-B - (B) 2 coats 279 fair to good

268-A-279 } - baked before 279 coat, Crackles - (good gin surf)

263-B-279 } (crackles - fair to good, gin surf)

266-B-279 } (awful crackles fair to g ~~ood~~ gin surf)

D-280

½ of varnish like 247

100 g } ~~Blanc Fixe~~
50 g } Lead Chromate,

one coat 278 + 1 coat 280 (4)

280 B - 2 coats 280 poor

268-B-280 } baked before 280 coat. fair to good ~~fair~~ good (wd).

267-A-280 } fair only

264-B-280 } not full finish good

280-B.F. Blanc fixe rubbed in dry to fill pores of blanc first + 1 coat 280 fair

280-A 1 coat 280.

D-281

Rosin
Boiled Linseed oil } equal parts

200 g above
20 g Lead Peroxide.
Ground them paint mill 8 times
Put in oven 4 PM Dec 9-18 —

Lead Peroxide should have been brought to 400°F in the mixture before applying to blankets.

Dec 10 - 11 A.M. 281
Rubbed into blanks equal parts rosin and boiled oil. and put in oven.
taken out of oven 9 Am Dec 12

See 294-295

D-282

½ of varnish like 247
100 g Blanc Fixe
50 g Red Lead

5 blanks 2 coats marked 282-B
Sands fair to good

fair Jan 16
P.O. an primer

D-283
1/2 of varnish like 247
100 g Blanc Fixe
50 g Lead chromate.

5 blanks 2 coats marked 283-B
Sound ~~fair to~~ good.

fair to good Jan 16
O.K. patent!

D-284
1/2 of varnish like 247
40 g T.L.S. Lotus Black - Bone black - J. Lee Smith & Co.
only fair

Good - Jan 16 -

D-285 –
1/2 of varnish like 247
24 g Prussian Blue.
only fair

Extra good Jan 16 –
P.O.

D-286 –
China wood oil rubbed into two blanks
put in oven Dec 11 – 9 20 A.M.
taken out Dec 12 – 9 20 A.M.

See 294 and 295

D-287

1	Varnish makers Litharge	Nat. Lead Co.	Crystals - N.G.
2	Dry White Lead Old Dutch Process	" " "	Crystals -
3	Varnish Makers Red Lead	" " "	Crystals -
4	Flake White Lead (New Process)	" " "	fine - lumps of clear -
5	Pow'd acetate of Lead -	" " "	fine
6	Sublimed White Lead	Eagle Pitcher Lead Co.	V.V. fine - some lumps -
7	Sublimed Blue Lead	" " " "	V.V.V. fine some small crystal
8	AAA Orange Mineral	" " " "	fine and less crystals than 5
9	Red Lead	" " " "	Libre 3
10	Powdered Litharge	" " " "	Libre 1 March 4, 1920 picked up like dry paste -
11	Carter White Lead	Carter White Lead Co. Chicago -	V.V. fine - clean -
12	Super Whiting	L.H. Butcher Co., Jan 3-1919.	Marble dust
13	Calcium Carbonate S.L.	" Jan 18-1919	V fine
14	" " 153	" " "	V.V. fine
15	GL Chrome green	" " 21 "	fine
16	8D " "	" " " "	Coarse
17	L chrome Yellow	" " " "	V fine
18	M " "	" " " "	V fine
19	D " "	" " " "	V fine
20	Cadmium Yellow	" Jan 23 1918	V V fine
21	Carbonate of Magnesia	" " "	looks like fine talc -

D-288

½ of varnish like 247
150 g ~~Sublimed~~ White Lead (Eagle Picher Co.)

288-B (A) 2 coats

uncertain curing —
gm surface UV good —
Spattering within surf fair — Snaps —
spitting continuous

Jan 16

- D-289 -

½ of varnish like 247
150 g ~~Sublimed~~ Blue lead (Eagle Picher ~~Head~~ Co)

289-B - (A) 2 coats.

good to very good - Jan 16

D-290 (see D-281)

20 g Boiled Linseed oil
20 g Rosin } Heated to 400°
4 g Peroxide of Lead

Put on thick on one side of blank - too stiff to do anything with it.

Heated blank in oven and reheated mixture and put on both sides of blank but still too thick.

Put in Oven 11.30 Am Dec 11

at 12.15 took out of oven and wiped off all surplus that I could while hot and put it back. - too thick - can not get it off

D-291

Plain China Wood oil rubbed into a blank until no more would go in

put in Oven 10.30 Am Dec 11

out of Am Dec 12

see 305

D-292

20g China wood oil } heated to 300°
20g Rosin }

292-A- Rubbed in with fingers – but not left dry like 281 – too thick.
wiped off after one hour in oven
see 305

292-B Thinned with equal part of denat alcohol and applied with a brush Put in oven 2 PM Dec 11
out Dec 13 – 9 AM
see 305 and 306

D-293

Plain linseed oil rubbed in with fingers.
Put in oven 3 PM Dec 11 (11)
out 9 AM Dec 13
see 305 and 306

D-294
1/2 of varnish like 247
150 g Carter White Lead.

281-294 ~~extra good~~ Jan 16
286-294 fair - Jan 16
294 - (4) 2 coats

Good Jan 16 Pull outs

D-295
1/2 of varnish like 247
150 g varnish makers Red Lead - Nat Lead Co.

281-295 Extra good Jan 16
286-295 only fair Jan 16
295 - (4) 2 coats

fair to good Jan 16

D-296

½ varnish libre 247 (see 239)
40 g Florence White Seal Zinc White
75 g Carter White Lead.

296 (4) - 2 coats
fair to good Jan 16

D-297

½ varnish libre 247
75 g Litharge (see 240)
75 g Red Lead - varnish makers. Nat Lead Co..

297 - (4) 2 coats
good - Jan 16

D-298 B

one coat linseed oil rubbed in with fingers.

Put in oven 10 45 Am Dec 13

temp about 150° F.

out of oven 4 30 P.m. Dec 13 See 305-306

see 305 and 306

D 299 B

one coat linseed oil rubbed in with fingers

Put in oven 10 45 Am Dec 13

out at 4 30 Pm Dec 13

2d coat Boiled Linseed oil put on warm blanks and put back in oven 5, P.m.

out 4.30 PM Dec 14

see 313 and 314

D-300

one coat boiled linseed oil rubbed
in with fingers
Put in oven 10 45 Am Dec 13
out 10 45 Am Dec 14

see 313 and 314

D-301

one coat boiled linseed oil
rubbed in with fingers
Put in oven 10 45 AM Dec 13
out 4.30 PM Dec 14

See 313 and 314

D302

one coat China wood oil
rubbed in with fingers
Put in oven 10 45 Am Dec 13
out of oven 4 30 Pm Dec 13 see 205-206
see 305 and 306

D303

one coat china wood oil
rubbed in with fingers
Put in oven 10 45 Am Dec 13
out at 4 30 Pm Dec 13
2d coat China wood oil put on
warm blanket and returned to
oven 5 Pm.
Out 4.30 Pm Dec 14

D304

one coat china wood oil rubbed in with fingers.

Put in oven 10 45 Am Dec 13

out 10 45 Am Dec 14

see 313 and 314

D-305

1/2 Varnish like 247

148 g Flake White Lead (Nat. Lead Co. New process)

28 g Carter White Lead.

291-305 = 291 with 2 coats 305

292-A-305 292 A with 2 coats 305

292-B-305 292 B with 2 coats 305 fair

293-305 293 with 2 coats 305

298-305 298 with 2 coats 305 fair

302-305 – Rotten

D-306 Dec 13-18

½ Varnish like 247

150 g AAA Orange Mineral Eagle Pitcher

292-B-306 = 292 B with 2 coats 306 Good

293-306 = 293 with 2 coats 306

298-306 = 298 with 2 coats 306

302-306 = 302 with 2 coats 306 ~~Poor~~ only fair Jan 17

306-B = 2 coats 306 Good Jan 17

D-307

½ Varnish like 247

150 g Lithopone

(4) - 2 coats - fair to good Jan 17

D-308.
1/2 of varnish like 247.
34 g Alumina Hydrate.
10 cc alcohol

(2 coats) fair to good Jan 17

D-309
1/2 varnish like 247
120 g Blanc Fixe - J. Lee Smith & Co.
too thick - only one coat put on

D-310

1/2 lot of varnish 247

~~40~~ g special tone black - J. Lee Smith Co.

only 25 g put in — too thick put one only one coat.

fair to good Jan 17

D-311

1/2 lot of varnish 247

24 g Alumina Hydrate.

(4) 2 coats

very good Jan 17

D-312

1/2 Lot of varnish libre 247
80 g Florence White Seal Zinc Oxide
4 - 2 coats

Very good Jan 17

313

1/2 lot of varnish libre 247
150 g Eagle Pitcher Red Lead.

309-313 ② one coat 309 + one coat 313 "good" Jan 17

299-313 two coats 313 on top

300 - 313 " " " " "

301 - 313 " " " " "

304 - 313 " " " " "

313 ② ~~one~~ two coats fair to good Jan 17

Viscosity of varnish 150

CLLJ

D-314

½ lot of varnish like 247

150g Eagle Pitcher Lead Co. Sublimed Litharge.

309-314 one coat 309 - one coat 314 better than "good" Jan 17

299-314 two coats 314 on top

300-314 " " " "

301-314 " " " " good Jan 14

304-314 " " " "

314 ② ~~two~~ coats

Viscosity of varnish 320

D.315 - Varnish

Dec 18-1918

new lot 5 lbs Phenol Resin

free Phenol 15%.

Viscosity 33 sec.

D-315 - see D 247

200 g Alcohol.

7 g Phenol

7.8 g b/4

1 g Para

100 g Phenol Resin.

D-316

1/2 of Varnish 315 –

150 g Eagle Pitcher Red Lead

Viscosity of Varnish 132 (see 313)

D-317

1/2 of Varnish 315 –

150 g Eagle Pitcher Sublimed White Lead.

Viscosity of Varnish 355 – (see 314)

Variation in viscosity is mainly due to evaporation in mill, for same proportions. 316 and 317 were made from same lot of varnish – and 313 & 314 were made from same lot.

White lead is much finer than red and stays suspended many times longer. This causes the greater viscosity of white lead varnishes

D-318
1/2 of varnish litre 315
175 g Barium chromate.

D-319
1/2 of varnish litre 315
100 g Ultramarine.
too thick - put on only one coat

very good Jan 17

D-320
½ of varnish like 315
75 g Ultramarine
very good Jan 17

D-321
½ of varnish like 315
50 g Strontium chromate.
Stuck to mould broke
print in half

D-322
1/2 of varnish libre 315
5 g Ultramarine
140 g Eagle pitcher white lead

4-2 coats

very good jan 17

D-323
1/2 of varnish libre 315
50g Cadmium Sulphide -

4-2 coats

D-324
1/2 of Varnish like 315
130g Lithophone.
10g Cadmium Sulphide.
10g Ultra Marine.

D-325
1/2 of Varnish like 315
130g Eagle Pitcher White Lead.
10g Strontium Chromate
10g Ultra Marine.

D-326

1/2 of varnish libre 315

75 g Eagle pitcher Sublimed White Lead

75 g " " Red Lead

good Jan 17

D-327

1/2 of varnish libre 315

75 g Eagle Pitcher White Lead.

25 g Cadmium Sulphide

brilliant golden yellow before baking,
sounds a little better than "good" Jan 17
beautiful golden record —

D-328
1/2 of varnish like 315
120 g Lithopone
15 g Ultramarine

D-329
1/2 of varnish like 315
150 g Blanc Fixe

D 330

1/2 of varnish like 315

145 g Lithophone

3 g Ultramarine

D 331

1/2 of varnish like 315

50 g Florena White Seal Zinc White

75 g White Lead.

D-332
50g Florence White Seal Zinc White
75g Lithophone
with 1/2 of Varnish Lib 315

Sounds V.V. good to Mr. E. Jan 22

D333
75g. White Lead
75g Blanc Fixe
with 1/2 of Varnish Libe 315

Sounds. V.V. good Mr. E can not hear surface after 1" in from start Jan 22

D334,

1/2 of varnish like 315

100 g White lead

50 g Florence White Seal Zinc White.

D335

Friday Jan 17-19 - 4 PM.

50 g Boiled linseed oil 50 g Rosin put on steam plate until Rosin dissolves. Thoroly rubbed into regular blank with fingers. Air dried until Jan 20, 9 AM. put in oven at 170° until Jan 21 10 30 AM -

see 336 and 337 also

D-335-B

"Expansion" of regular blank -

Micrometer reading .5178 temp. 70° F Jan 20 9 Am
" " .5068 oven " 275° F Jan 20 9 15 Am
" " .5083 temp 77° F Jan 21 10 30 Am
" " 4971 oven " 275° F Jan 21 2 10 P.m.
" " .5038 " 80° F Jan 22 8 15 Am
" " .4965 temp 297° F Jan 22 10 35 Am
" " .5102 temp 76° F Jan 23 11 15 Am
" " .4955 temp 292° Jan 23 3 45 Pm.
" " .5050 temp 78° Jan 24 4 Pm.
left in oven to change - .4870 temp 205 8 40 Am
4720 temp 76° 1 15 Pm

record was provided by mic. when found.

D-336 Jan 21-19

1/2 ~~lot~~ vomich libre 315
25 g Cadmium Sulphide
15 g Alumina Hydrate

335-336 - shows very badly mottled

D 337 Jan 21-19
½ lot of varnish like 315
25g Cadmium Sulphide
75g Lithophone

D-338 see also (320)
½ lot of varnish like 315
75g Ultra Marine

D 339

75 g. Eagle Pitcher Red Lead.
25 g. Cadmium Sulphide.
— ½ lot of varnish like 315 —

D 340

~~200~~ 275 g Reg. Varnish —
1 g Boiled Linseed Oil —

D341
½ lot of varnish libre 315
90 g C.P. Chrome Yellow "Light"
L.H. Butcher Co

D342 See 345
½ lot of varnish libre 315
110 g C.P. Chrome yellow medium
L.H. Butcher Co.
too thick –

D343

1/2 lot varnish like 315

100 g. C.P. Chrome Yellow Dark

L.H. Butcher Co.

1st coat seems to soak into blanks much more than 341 or 342 and considerably more than 344.

D344

1/2 lot varnish like 315

100 g Chrome green Guidera 6L

L.H. Butcher Co.

See 342

D-345

½ lot of varnish like 315 –
100 g C.P Chrome Yellow Medium

D-346

½ lot of varnish like 315 –
g Precipitated Calcium Carbonate
L.H. Butcher Co.

Samples of Pigments

(D347)

1 "B" Carbon Black L.H. Butcher Co. letter Jan 23-19.
2 Binney & Smith No. 1 ~~Gas~~ black –
3 Special Pigment (500 mesh)" from J. Lee Smith & Co Feb 17-19
4 Clay Brand H. – The Atlas Co. 25 Beaver Street, N.Y. 10c ton –
5 Rottenstone "Argillite" Elk Chemical & Color Co. Ridgeway.
6 Kieselguhr ground in Ball mill for 2 hours.
7 Titanox BXX Pigment. Titanium Pigment Co. Inc. Niagara Falls.
8
9
10
11
12
13
14

Samples of Pigments.

D347

Coarse crystals and coarse foreign particles,
a few coarse crystals – dark color. Fat two times in
compares well with Keystone BXX
looks like Blanc Fixe.
looks like Blanc Fixe. Titanic oxide 25-26% Barium Sulphate 74-75%.